

## REMARKS

Thorough examination of the application is sincerely appreciated.

Claims 1-43, 58 and 59 are pending, with claims 1, 15 and 30 being independent. Claims 44-57 are canceled without prejudice. Claims 58 and 59 are added. The pending claims are selectively amended without introduction of any new matter.

In the Final Office Action (FOA), the pending claims are rejected as follows:

- I. Claims 1 and 3 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 4,174,784 ("Hartung") in view of U.S. Patent 1,925,443 ("Gere") and U.S. Patent 2,997,397 ("Doulgheridis").
- II. Claims 2 and 4-7 stand rejected under 35 U.S.C. §103(a) as unpatentable over Hartung in view of Gere, Doulgheridis and further in view of U.S. Patent 5,522,155 ("Jones").
- III. Claims 8-14 stand rejected under 35 U.S.C. §103(a) as unpatentable over Hartung in view of Gere, Doulgheridis and further in view of U.S. Patent 5,358,872 ("Mussi"),
- IV. Claims 15, 17, 24, 25, 27-31, 38, 39, and 41-43 stand rejected under 35 U.S.C. §103(a) as unpatentable over Mussi in view of Gere and Doulgheridis.
- V. Claims 15, 18-22 and 30-36 stand rejected under 35 U.S.C. §103(a) as unpatentable over Jones in view of Gere and Doulgheridis.
- VI. Claim 44 stands rejected under 35 U.S.C. §103(a) as unpatentable of U.S. Patent 5,988,448 ("Foth") in view of Gere, Bartur and Doulgheridis.

The Examiner did not expressly reject Claims 45-57, but these claims along with claim 44 have been cancelled without prejudice.

The Office has not established a *prima facie* case of obviousness because the cited references, alone or in combination, do not teach or suggest all of the claim limitations of the independent claims as discussed below. Consequently, Applicant respectfully request that the rejections be withdrawn.

### **I. Claims 1 and 3 are patentable over Hartung in view of Gere and Doulgheridis**

Claim 1 recites, among others, the following:

--allowing the filled container to cool; and thereafter applying an air tight seal over the membrane-covered hole--

Hartung discloses hot filling and capping a container. However, as the Examiner explicitly admits, "Hartung is silent in teaching providing an air tight seal over the membrane." FOA, p. 5, last paragraph.

In addition to being silent regarding an air tight seal, as recited by Claim 1, Hartung fails to teach cooling a filled container, and then applying an air-tight seal to the cooled container, as recited by Claim 1.

To remedy the deficiency of Hartung, the Examiner cites Doulgheridis and correctly states that this reference "discloses the use of a solid fusible material that, upon melting, creates an air tight seal on a food container." *Id.* However, Doulgheridis fails to teach forming a seal **after the container has been cooled.**

The Examiner's attention is directed to col. 6, lines 20-23 of Doulgheridis disclosing "[W]hen the filled containers ... are processed in the manner described above ... fusible material **18** melt." The "manner" in which the containers are processed is disclosed in col. 5, lines 38-53. In particular, Doulgheridis discloses the following:

"After the air has been exhausted ... [T]he steam enters directly into the containers themselves ... and heats, sterilizes and cooks the food products in the **containers**. In this operation, the autoclave is **heated by the steam and the solder 9 is melted by the heat.**" (Emphasis added)

Accordingly, containers, as disclosed by Doulgheridis, are not cooled before an air-tight seal is applied. Contrary to the recited method of Claim 1, Doulgheridis explicitly teaches that containers and solid fusible material (air-tight seals) are **first simultaneously heated and then simultaneously cooled.** If the fusible material were applied to a cold container, it would not melt. In contrast, Claim 1 requires that a seal be applied to a cooled container.

Gere teaches the following:

"The package is then **submerged** into a body 6 of molten paraffine at a temperature of approximately 220° F." Gere, page 2, lines 137-139

The 220° F temperature is high. In fact, it is very high and sufficient to heat a product to be sealed. Thus, Gere teaches heating a product while applying a seal as opposed to cooling the product before the seal is applied, as recited by Claim 1.

Thus, Applicant respectfully submits that a combination of the cited references fails to render Claim 1 unpatentable.

Therefore, Claim 1 and 3, which depends upon claim 1, are patentable over the cited combination. Withdrawal and reconsideration of the rejection of claims 1 and 3 are in order.

**II. Claims 2 and 4-7 are patentable over Hartung, Gere, Doulgheridis and Jones**

Claims 2 and 4-7 depend on claim 1 and, thus, benefit from its patentability. Jones does not cure the deficiencies of the references as applied to Claim 1. Withdrawal of the rejections of Claims 2 and 4-7 is respectfully requested.

**III. Claims 8-14 are patentable over Hartung in view of Gere, Doulgheridis and Mussi.**

Mussi, like, Jones, does not remedy the deficiency of the above discussed combination of references. Accordingly, Claims 8-14 depending upon Claim 1 are patentable as well. Applicant respectfully requests that the rejection of claims 8-14 be withdrawn and favorably reconsidered.

**IV. Claims 15, 17, 24, 25, 27-31, 38, 39, and 41-43 are patentable over Mussi in view of Gere and Doulgheridis.**

The present disclosure teaches that known "vented caps also permit gaseous fluids to migrate into the heads space of the bottle, [as a consequence} both the quality ... and **the safety** of the contents could potentially be compromised." Specification, p. 3, paragraph [0006] To provide safety and prevent such migration, the disclosure teaches irremovably placing an air-tight seal over a venting hole upon cooling of the container. Specification, p. 3, paragraph [0007]

In view of the foregoing, Claim 15 recites, among others, the following:

"an air-impermeable sealing material irremovably contained within the hole to provide an air-tight seal over the portion of the air permeable membrane covering the hole, wherein the air-tight seal is essentially flush with the top surface."

Mussi teaches a container for culturing mammalian cells where a gas permeable membrane is provided in the closure to allow a rapid uniform equilibration of gases between the atmosphere of the vessel and the atmosphere of an incubator." Mussi, Abstract. Mussi further teaches applying removable seals to the outer surface of a closure, not into the hole, as recited by Claim 15. Mussi, col. 5, lines 34-46. Displaceability of air-tight seals is a salient feature of Mussi's disclosure, because when a container is placed in the controlled atmosphere of the incubator, the air-tight seal must be removed "to allow communication between the gases of the incubator atmosphere" and the interior of the container. Mussi, col. 5, last paragraph. According to Mussi, removal and insertion of containers from and back into an incubator occur on a periodic basis.

Assuming, arguendo, that the cited secondary references teach permanently filling a hole with an air-tight seal, although they do not as discussed below, removing the air-tight seal from a small hole every time the container is being returned into the incubator, at the very least, is impractical. "Rejections on obviousness grounds cannot be sustained by mere conclusory statement, instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Rouffet*, 149 F.3d, 1350-59, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) As a consequence, one of ordinary skill in the art of manufacturing vessels for culturing mammalian cells containers, would not be motivated by the teaching of Mussi to place an air-tight seal into a hole of closure, as recited by Claim 15.

The examiner cites Gere and Doulgheridis as allegedly curing the deficiency of Mussi. Applicant respectfully disagrees.

Gere teaches that a film of paraffine that penetrates openings "is however so delicate as to be readily ruptured by excess pressure from within the package." Gere, p. 2,

lines 148-150. The air-tight seal must break so that a person can access a product to be consumed and covered by the paraffine layer. Thus, if placed in a hole of Mussi, the air-tight seal as taught by Gere can and necessarily will break. However, this is in contrast to "sealing material irremovably contained within the hole" as recited by Claim 15.

Furthermore, Gere teaches submerging the entire product in paraffine. Accordingly, the entire is covered by an air-tight seal. Importing the teaching of Gere to Mussi would lead to the resultant structure having the air-tight seal overlaying or extending above the outer surface of the closure of Mussi. In contrast, Claims 15 recites that an air-tight seal is flush with the outer surface of the closure. In view of the forgoing, a combination of Mussi and Gere does not render Claim 15 unpatentable.

Doulgheridis does not teach a closure body provided with a hole opening into the opposite inner and outer surfaces of the body, as recited by claim 15 and taught by Mussi. In contrast, this reference teaches that "an air-tight gasket member ... interposed between the seat and the closure member." Doulgheridis, col. 3, lines 69-71. In other words, a gap, as taught by this reference, first, is formed between the components of the body, not in an individual component, as recited by Claim 15. And second, the gap terminates at a distance from the interior of the body, as clearly shown, among others, in Fig. 4, elements 16-18 - see the L-shaped flange 16 extending from the **outer surface** of the container. In contrast, the hole as recited by Claim 15 opens into the interior of the body.

Upon incorporating the structure of Doulgheridis in Mussi, the latter would have a fillable gap which is located between a closure and container and, in addition, does not open into the interior of the bottle. Both modifications, of course, would radically alter the structure of Mussi teaching a hole in closure and opening into the inner surface of the closure. Most importantly, the teaching of Doulgheridis fails to compensate for the patentable differences between the Mussi/Gere combination and Claim 15.

Therefore, Claim 15 is patentable over a combination of the cited references.

Claim 30 recites the following:

a closure capping the heated body, at least one of the  
closure and body having a through-going hole opening at

inner and outer ends thereof into respective inner and outer surfaces of the least one of the closure and body;  
a hydrophobic air permeable membrane secured to the inner surface and closing the inner end of the hole; and  
an air tight seal closing the outer end of the hole upon cooling the body to an ambient temperature lower than the first temperature.

As discussed in reference to Claim 1, none of the cited references teaches applying an air-tight seal after a heated container has been cooled. Thus, a combination of cited references does not render Claim 30 unpatentable.

Claims 17, 24, 25, 27-31, 38 and 39 selectively depend on claims 15 and 30 and are patentable over the cited references at least for the fact of their dependency on allowable independent claims.

Withdrawal and reconsideration of the rejection of claims 15, 17, 24, 25, 27-31, 28 and 39 are respectfully requested.

**V. Claims 15 , 18-22, and 30-36 are patentable over Jones in view of Gere and Doulgheridis**

Jones does not teach an air-tight seal, nor does Jones teach "a hole opening into outer and inner surfaces of the body" of a closure, as recited by Claim 15. Neither Gere nor Doulgheridis alone or in combination can provide any meaningful teaching allowing Jones to overcome the noted deficiencies of Jones as compared to Claim 15.

Similarly, Jones, Gere and Doulgheridis, if combined together, fall short of the structure, as recited by claim 30. Thus, both claims are patentable over the cited references.

The rest of the rejected claims selectively depend on Claims 15 and 30 and benefit from their patentability. Withdrawal and reconsideration of the 103(a) rejection of claims 15, 18-22 and 30-36 are in order.


**Conclusion**

Based on all of the above, it is respectfully submitted that the present application is now in condition for allowance. Prompt and favorable action to this effect, and early passing of this application to issue, are respectfully solicited. However, should the

Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues remaining in this case.

Please charge any additional fees associated with this application to Deposit Account No. 06-0923.

Respectfully submitted,

By  \_\_\_\_\_

Yuri Kateshov  
Reg. No. 34,466  
Goodwin Procter LLP  
599 Lexington Avenue  
New York, NY 10022  
(212) 459-7328